USCMS Engineer Status Report for October 2004

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November 1, 2004

1 Work Performed This Month

1) Graviton Phys TDR task - we are made a small contribution during egamma workshop in october and Marie-Claude will do separate talk regarding MGPA electronic saturation in November during CPT week or later on, during ECAL egamma meeting. 2) We finalized the datasets which we are need to produce through official production chain with Chris Seez. He lets us know when we can submit our requests as well as the common procedure how we can do that in a future. 3) We are preparing talk in December CMS week about total backgrounds for the graviton diphoton decay as well as first results with single particles for MGPA saturation (if datasets will be ready at the moment) 4) We are able to run compHEP at tier2 and tier2c and first results will come up shortly. Currently Mikhail testing both installations and we will start production in the beginning of November. 5) I am working now on resurrection of our old analysis program - we need three different set of programs - for the vector boson fusion background study, which will include L1 trigger efect as well as some other improvements, graviton study - we need to rerun part of reconstruction to be able to obtain timeframes and s tore some digest information from them - it helps us to wrestle with MGPA satura tion as well as rear face crystal leakage. Third set is for the work with DST (p revious two sets will deal with Digis). This part should be done from scratch. One program (which does work with Digis with L1 trigger, but without time frames) is already done and I am testing it right now. Some additional complexity does exist if we would like to store 132 bit trigger word, and we definitely would like to keep it. It will be finalized,

when L1 trigger problem in ORCA will be fixed. I am working now on two others - DST reader (it is relatively easy) and additional programm which will deal with timeframes. This will be the main work in November. 6) Gridshell works good. We are able to integrate three TG clusters together and correctly running jobs on them. Now I am testing stability of this system and we are fixing some bugs with Edward. More progress in it will be done after SC04 when Edward will be more accessible. I am using current version so far and it is pretty stable. To be more confident, I would like to run up to 10000 jobs through this system (1500 were ran throug so far). There is some unclear problem with Caltech TG cluster, but it might be slow NFS at the moment when our jobs were ran. 7) technical things - Caltech HPSS will go out of service in the mid next year and I am moving some important data from Caltech HPSS to tier2 raids as well as SDSC HPSS. It is still possible to do, but starting as of next year SDSC will take into account these HPSS-stored amount of data and will charge it against our allocation, so we need to adjust them next year to take this effect into account. 8) NRAC prolongation request has been done and submitted for our TG resources

2 Status of Deliverables

1) Graviton Phys TDR task - we are made a small contribution during egamma workshop in october and Marie-Claude will do separate talk regarding MGPA electronic saturation in November during CPT week or later on, during ECAL egamma meeting. 2) We finalized the datasets which we are need to produce through official production chain with Chris Seez. He lets us know when we can submit our requests as well as the common procedure how we can do that in a future. 3) We are preparing talk in December CMS week about total backgrounds for the graviton diphoton decay as well as first results with single particles for MGPA saturation (if datasets will be ready at the moment) 4) We are able to run compHEP at tier2 and tier2c and first results will come up shortly. Currently Mikhail testing both installations and we will start production in the beginning of November. 5) I am working now on resurrection of our old analysis program - we need three different set of programs - for the vector boson fusion background study, which will include L1 trigger efect as well as some other improvements, graviton study - we need to rerun part of reconstruction to be able to obtain timeframes and s tore some digest information from them - it helps us to wrestle with

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3 Plans For Next Month

1) To work on our analysis programs to be able to work with new digis as well as new DSTs and timeframes. This is main priority right now. 2) Calorimetry work (mainly will be busy with analysis program, but will check with Andre what will need to do in CASTOR and other areas. Now ORCA is in bugfixing mode, so there is not much new development anyway) 3) CompHEP generated data. We are able to produce them now and part of this data should be available in the mid November. Whole bunch of data will be done until New Year. 4) Paris asked our group working on implementation 500GeV photons in FAMOS. This is under consideration now. 5) submit datasets for the graviton and VBF production through official chain (or through US-CMS - it is more preferable) 6) working with comphep on other clusters and create

single unified mechanism to run it through PBS/LSF. Will create some description. 7) Will add IA32 cluster into our pool of three IA64 clusters and will try to check the ability of gridshell to handle this situation. It is technically possible, but should be checked out. 8) make a draft for the ICCS05 conference in Atlanta about our Gridshell improvements with Edward

4 Longer Term Plans

1) To work on our analysis programs to be able to work with new digis as well as new DSTs 2) Calorimetry work. Hopefully, our analysis programs will be ready to work and I'll spent more time on Calorimetry again. What will be top priority at that time - will see. 3) Paris asked our group working on implementation 500GeV photons in FAMOS. This is under consideration now. If it will be considered high priority task - will spend some time on that task as well. 4) check the official produced datasets (hopefully they will be done in December...) 5) submit new assignments for CompHep generated datasets and check them out. We would like to have 1M of 2gamma+2jets and 1-5M 1gamma+3jets QCD background. 6) May be we will produce the QCD background for the graviton study with the same CompHep machinery at hands, but it will be discussed later on (in October- November) 7) Gridshell is working with IA64 clusters right now and I would like to add IA32 and to check them out. Main open question here is how robust and stable will be this system. 8) Conference draft will be sent out before Dec,1 (deadline)

5 Links To Supporting Documentation

- http://www.hep.caltech.edu/ litvin/egamma_oct04_v2.ppt
- http://www.hep.caltech.edu/ litvin/nrac2004.ps
- http://www.hep.caltech.edu/ litvin/MCL_v2.ppt
- http://www.hep.caltech.edu/ litvin/egamma_nov04.ppt
- http://www.hep.caltech.edu/ litvin/TACCpanel.jpg